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Post Privatisation Operating and Financial
Performance of Newly Privatised firms: Evidence
from Pakistan.

Sardar Ahmad

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Abstract

This study investigates post privatisation operating and financial performance of newly privatised firms in Pakistan. The sample consists of fifteen firms privatised in the period 2002 - 2008. Operating performance of newly privatised firms in this study is measured over a four year period including the year of privatisation. The three years trend of post privatisation operating performance is compared to operating performance in the year of privatisation. Financial performance is measured using buy-and-hold abnormal returns (BHAR). Results of the study show that post privatisation, profitability, efficiency and pay out increases, while leverage decreases for more than 50% of the sample firms. The results also indicate that firms privatised through different methods of privatisation show different trends in post privatisation operating performance. Findings regarding the post privatisation financial performance show that BHAR are negative for all of the sample firms over the three years horizon, while different methods used to privatise state owned enterprises (SOEs) does not affect post privatisation BHARs of newly privatised firms.

1 Aims and Objectives

1.1 Introduction

This chapter serves as an introduction to the dissertation. The chapter will present the focus of the research and will identify aims of the research as well. In the end research questions of the study will be outlined and the rationale behind these research questions will also be discussed. The chapter is divided into four sub sections to cover these topics. Each of these topics is discussed in the following sections.

1.2 Focus

Privatisation is the focus of this study. The term privatisation can be used in a number of ways to define the relationship between government and private sector (Kay & Thompson (1986). Kay & Thompson (1986.p.18) further states that “among the most important of these relationships are denationalisation (the sale of publicly owned assets), deregulation (the introduction of competition into statutory monopolies) and contracting out (the franchising to private firms of the production of state financed goods and services)”. One of the rationales behind privatisation is to increase efficiency of state owned enterprises (SOEs) (Cavaliere and Scabrosetti, 2008). Similarly Megginson and Netter (2001) survey the literature on efficiency after privatisation and conclude that privately owned firms are more efficient than their comparable SOEs counterparts.

Reasons behind the improved efficiency in post privatisation operating and financial performance can be explained with the help of property rights theory (Alchian, 1965) and agency theory (Jensen and Meckling, 1976). One of the focuses of property rights theory is that owners of firms are able to sell their ownership rights in the

market if they are not satisfied with the managerial and firm performance (Vickers and Yarrow, 1988). Owners in privatised firms can easily sell their ownership in capital markets as opposed to state owned enterprises (SOEs), in which ownership lies with governments and can not be sold in markets. Therefore the existence of a market for ownership rights puts more pressure on managers and provides more incentives for performance improvement in privatised firms.

The focus of agency theory is that managers (agents) in both private and SOEs are assumed to maximise their own benefits rather than maximising wealth of the owners (principals) of organisations (Jensen and Meckling, 1976). The principal agent relationship in SOEs is more complex, because there are two layers of agency relationship in SOEs. One layer is between public-to-politicians and the second is between politicians-to-managers. This extra layer of agency relationship effectively reduces the incentives for monitoring managers' behaviour and leads to inefficiency in SOEs. On the other hand privatisation induces changes to corporate governance and managerial incentives, which leads to improved performance (Cuervo & Villalonga, 2000).

Similarly the proponents of public choice view argue that politicians and bureaucrats pursue their own objectives rather than public interest (ultimate owners of SOEs), so they impose goals on SOEs (such as, maximise employment, promote regional development etc) that can lead them to gain but can conflict with profit maximisation and might lead to value destruction (Boubakri et al, 2004).

As all of the theories mentioned above suggest that privatised firms are considered to be more efficient and profitable than SOEs, therefore one would expect improvement in the post privatisation performance of SOEs. This has led to testing of hypothesis about relatively more efficient private sector performance that is reviewed later.

Drawing on the above theories this study contributes to a body of empirical literature that investigates the relationship between ownership and firm performance by analysing the post privatisation performance of companies in Pakistan.

1.3 Aims

Privatisation is carried out in a number of different ways in different parts of the world, depending on the objectives of the government involved, state of the economy and size of the SOEs. Brada (1996) discusses different methods of privatisation and states that privatisation through the sale of state property can be carried out in two ways. One is direct sale (or asset sale) of state owned enterprises in one transaction or in many transactions in tranches, and the second is share issue privatisation (SIP) in which some or all of the government's ownership of SOEs is sold to investors through a public share offerings. Privatisation in Pakistan is carried out using both direct sale and SIP.

Agency, property rights and public choice theories discussed in the earlier section above suggest that privatised firms are more profitable than SOEs. The post privatisation efficiency argument of these theories and the privatisation programme carried out in Pakistan has created an opportunity to investigate the post privatisation efficiency phenomenon in the context of Pakistan. Therefore, first aim of this research is to study post privatisation operating performance of state owned enterprises (SOEs) that were privatised either through direct sale or SIP. Second aim of the research is to study the long-run (3-years) stock returns of newly privatised firms; again this analysis will include firms that were privatised through direct sale as well as SIP.

1.4 Research questions

The research questions of this study are:

- Has the operating performance of SOEs improved in the three years following privatisation in Pakistan?
- Is there any difference in the post privatisation operating performance of newly privatised firms that were privatised through direct sale and share issue privatisation (SIP)?
- What are the stock returns to investors of newly privatised firms over the long-run (3-years) after privatisation, for firms that were privatised through direct sale and SIP?
- Is there any difference in the stock return of firms privatised through direct sale and SIP?

1.5 Rationale for the research questions

The existing literature on privatisation both in developed and developing countries have documented improved operating performance after privatisation of SOEs (e.g. Megginson et al (1994), D'souza and Megginson (1999), Boubakri et al (2005) etc) . Similarly the existing literature on post privatisation long-run stock returns also shows increase in stock returns (e.g. Menyah et al (1995), Jelic and Briston (2003), Choi and Nam (2006) etc). The first rationale behind the research questions is that, there is no study which investigates these issues in the context of Pakistani privatisation programme so this research is an attempt to fill this gape.

The second rationale behind the research questions is that most of the existing literature has studied only SIP which is a common method of privatisation around the world. But it is different in the case of Pakistan where most of privatisation

transactions are carried out through direct sale (or asset sale). Therefore, it is important to investigate whether or not operating and financial performance of newly privatised firms is affected by the method of privatisation used.

The third rationale behind the research questions is that the existing studies on privatisation have investigated the operating and financial performance separately.

This research will investigate operating performance and stock returns at the same time for one sample.

2 Literature review

2.1 Introduction

Since the 1970s, following the UK and the US experiences, both developed and developing countries have accelerated the privatisation of traditional public industries, such as electricity, telecommunications, railways and water supply. Privatisation particularly gained momentum in the late 1980s and spread to a wide range of developing countries. Over the last two decades significant proportion of privatisation transactions have been in developing economies and have resulted in the sale of public utilities. Megginson et al (1994, p.421) states that some of the major goals of governments to privatise state-owned enterprises (SOEs) are to“(1) increase firms’ profitability (2) increase its operating efficiency (3) cause (or allow) firms to increase its capital investment spending; and (4) to increase its output”. It is the first and second objectives mentioned by Megginson et al (1994) above which is the topic of investigation for many studies on privatisation and will be investigated in this study as well in the context of Pakistan.

The existing literature on privatisation mainly covers two aspects of privatisation i.e. post privatisation operating and financial performance of newly privatised firms and the long run stock returns of privatisation initial public offerings (IPOs). For example ((Boardman and Vining (1989), Megginson et al (1994), Boubakri and Cosset (1998), D’souza and Megginson (1999), Dewenter and Malatesta (2000), Martin and Parker (1995), Gupta (2005) etc) analyse the operating and financial performance of privatised firms. While ((Megginson et al (2000), Boardman and Laurin (2000), Choi and Nam (2006), Megginson et al (2006) etc) study the long run stock returns of privatisation IPOs.

In global terms, Pakistan has been a relative latecomer with regard to adopting privatisation policies but in recent years a number of SOEs have been transferred to private ownership. When considered in connection with the liberalisation of markets such as energy, telecommunications and banking, privatisation has had a marked impact on the composition of the Pakistani public enterprise sector as well as the structure of important markets. It has also had significant effects in terms of corporate performance, employment and equity markets. Privatisation efforts began in Pakistan after the creation of Privatisation Commission (PC) on January 22, 1991. Although the PC mandate initially restricted to industrial companies, by 1993 it had expanded to also include Power, Oil & Gas, Transport (aviation, railways, ports and shipping), Telecommunications and Banking and Insurance. According to the data published by PC, during the period 1991 to 2009 the Commission completed privatisation of 167 transactions in the country.

Based on the existing literature on privatisation one focus of this study would be to analyse the post privatisation operating performance of newly privatised firms in Pakistan. The existing literature mainly investigate the performance of privatised firms which were privatised through share issue privatisation (SIP), as this is the most common method of privatisation around the world. However, this study includes firms which are privatised through direct sale as well, because most of the privatisation transactions in Pakistan are carried out through assets sale (direct sale) to other companies.

The second focus of this study would be to investigate the long run stock returns to investors of newly privatised companies. Again this analysis will include firms that were privatised through SIP as well as those firms that were privatised through direct

sale. Again this is different from the existing literature which only covers the long-run stock performance of firms privatised through share issue privatisation.

2.2 Long run returns to investors in share issue privatisation

Various studies have analysed the long run (1-5 year) performance of privatisation Initial Public Offers (PIPOs). Some of these studies are single country while others analysed multi national samples for the long run performance of privatisation IPOs. Levis (1993) studied the long run returns to 806 British IPOs from 1980 to 1988. In Levis's sample of 806 IPOs only 12 were privatisation initial public offers (PIPOs) which accounted for 76% of the total IPOs value. The main findings of the study showed a complete contrast in the long run performance of private sector IPOs and PIPOs, private sector IPOs under-performed the market by more than 10% over three years while PIPOs out-performed the market by over 15%. Similarly Menyah et al (1995) studied the long-run performance of 40 British privatisation IPOs during the period 1981-1991 and found that the UK PIPOs provide long-run holding gains to investors.

The long-run returns of PIPOs has also been studied in countries other than the UK and the same pattern of positive long-run return has been reported by many studies. For example Jelic and Briston (1999) investigate the initial and long-run returns for 25 PIPO and 24 other IPOs in Hungary during 1990-1998 and report that PIPOs produce positive market-adjusted returns over 1, 2, and 3-year holding periods. Similarly Jelic and Briston (2003) examine initial and long-run returns for 55 PIPOs and 110 other IPOs in Poland during 1990-1998 and found that PIPOs investors earn significantly positive 1, 3 and 5-year market adjusted returns, while other IPOs earn negative returns. The pattern of positive long-run returns seems to persist outside the European countries as well, Paudyal et al (1998) examine the long-run returns to

investors in 18 PIPOs in Malaysia from 1984-1995 and show that PIPOs yield normal returns over 1, 3 and 5-year holding periods.

The long-run stock returns of PIPOs for multi national samples also show the same pattern of positive long-run returns. Megginson et al (2000) investigate the long-run buy and hold returns for 158 firms in 33 countries from (1981-1997) and show that share issue privatisation investors earn higher returns than the investors who invest in either of the local , world , USA market or industry matched firms. Choi and Nam (2006) calculate one, three and five years buy and hold returns based on monthly data for 241 firms in 41 countries and show that privatisation IPOs out perform their domestic market over a five-year holding period. However, Choi and Nam (2006) argue that by value weighing the returns the measured abnormal performance reduce to an insignificant economic level. In another similar study carried out by Nam et al (2006) in which they studied 241 firms in 42 countries from 1981-2003 and reported the same findings that PIPOs out perform their domestic stock markets in the long-run. However, they did not show any significant abnormal long-run stock performance relative to their size and size-and-book matched firms of respective countries.

On the basis of efficient market hypothesis (Fama, 1970), shares of newly privatised companies should reflect all available information about the newly privatised company and PIPOs should earn normal returns. But Perotti (1995) provides explanation for the buy-and-hold abnormal returns (BHAR) of PIPOs. Perotti (1995) argue that there is additional risk related to policy and economic uncertainty in PIPOs, and this additional risk might cause significantly positive abnormal returns during the first few years after privatisation.

Measuring the long-run stock returns is one of the most disputed topics in the finance literature and there is no universally agreed method for the measurement of long-run stock returns (Choi and Nam, 2006). Similarly Barber and Lyon (1997) highlight this problem as well and argue that the long-run abnormal returns some times produce misspecified test statistics. As mentioned by (Choi and Nam, 2006) cumulative abnormal returns (CAR) and Buy and Hold Abnormal returns (BHAR) are the most widely used methods for the measurement of long-run stock returns. CAR is used to measure daily stock returns while BHAR is used to measure buy and hold returns over a longer period of time.

One of the questions this research is trying to answer is that, what are the stock returns to investors of newly privatised companies over the long-run (3-years) after privatisation? To answer this question the most common model used in the existing literature is the buy-and- hold abnormal returns (BHAR). So in this study the methodology used by (Choi and Nam, 2006) will be adopted to measure BHAR over a three year period for privatised firms.

$$BHAR_{it} = \prod_{t=0}^{\tau} (1+R_{it}) - \prod_{t=0}^{\tau} (1 + R_{MCT}) \quad (1)$$

Where, t is the number of months from the first trading day; τ is the period of investment in months ($\tau = 12, 24, 36$); R_{it} is the return on security i in month t , and R_{MCT} is the market return in month t .

This study will add to the existing literature by analysing the long-run stock performance of PIPOs in the context of a developing country (Pakistan) and will investigate whether PIPOs in the case of Pakistan show the same pattern of long-run performance as documented by earlier studies in developed and other developing countries. At the same time the study will also investigate the long-run returns of firms privatised through asset sale which has not been studied before. To the best of

our knowledge there is no such study carried out until now on Pakistani privatisation, so this study is an attempt to fill this gap in the existing literature.

2.3 Operating performance of privatised firms

The second aspect of privatisation which is of interest in this study is the post privatisation operating performance of privatised firms. Numerous studies have investigated the issue both in developed and developing countries and in single and multinational contexts. Most studies surveyed by Megginson and Netter (2001) and Djankov and Murrell (2002) report significant increase in post-privatisation, efficiency, profitability and labour productivity. However quite a few studies document a poor post privatisation operating performance. (See for example, Jain and Kini (1994), Mikkelsen, Partch, and Shah (1997), Echbo, Masulis, and Norli (2007) etc.

Martin and Parker (1995) used two measures (rate of return on capital employed and annual growth in value-added per employee-hour) as indicators of improved performance and examine 11 British firms privatised during 1981-88 in five periods, nationalized, pre-privatisation, after announcement of privatisation, post privatisation and in the recession of the early 1990s. Martin and Parker (1995) report mixed results and argue that less than half of the 11 firms studied showed significant improvement in performance, while several firms' performance improved prior to privatisation which they called as an indication of initial "shake-out" effect upon privatisation announcement.

As far as the empirical evidence in multinational context is concerned the results are more consistent and almost all of the studies show improved operating performance after privatisation. Megginson et al (1994) studies 61 companies from 18 countries and 32 industries that experience either full or partial privatisation during the period

1961 to 1990. Megginson et al (1994) argue that after privatisation the privatised firms showed increase in sales, their profitability increased as well as their capital investment spending also increased. Similarly D'souza and Megginson (1999) document an increase in , profitability, real sales, operating efficiency and dividend payments, while leverage ratios decreased significantly after privatisation in 85 companies in 13 developing and 15 industrialised countries.

Boubakri and Cosset (1998) studied 79 companies from 21 developing countries with either full or partial privatisation between 1980-1992 and report a significant increase both for unadjusted and market adjusted, profitability, operating efficiency, capital investment spending, output, employment level and dividend pay out. They also document a significant decline only for adjusted leverage ratio and not for unadjusted leverage ratio. More recently Boubakri et al (2005) studied the post privatisation performance of 230 firms in 32 developing countries and document a significant increase in post privatisation profitability, efficiency, investment and output consistent with earlier studies.

The pattern of improved operating performance in developed countries is consistent with that of developing countries, as D'souza et al (2005) investigate 23 developed (OECD) countries and document a significant increase in profitability, efficiency, output and capital expenditure after privatisation as reported in earlier studies for developing countries.

As the existing literature shows that the operating performance of companies improves significantly after privatisation both in developed and developing countries. This study is an attempt to investigate whether or not the performance of newly privatised firms in Pakistan improves after privatisation. Using the methodology adopted by Megginson et al (1994) the post privatisation performance of companies in

this study will be measured in terms of profitability, operating efficiency, leverage and output.

Profitability will be measured in terms of Return on sales, return on capital employed (ROCE) and return on equity as used by Megginson et al (1994), while operating efficiency will be measured in terms of total asset turn over (sale/total assets). Leverage will be measured in terms of long term debt to equity and payout will be measured in terms of dividend payout (Megginson et al, 1994).

2.4 Summary

The literature review in the previous sections examined the existing literature on privatisation and the theoretical background of post privatisation operating and financial performance improvements. The literature also shows that the two aspects of privatisation studied extensively in the existing literature are (1) post privatisation operating performance of privatised firms and (2) the long-run stock returns to investors of newly privatised firms. The review also show that both these aspects of privatisation have been studied in firms that were privatised through share issue privatisation only, and a study on the analysis of post privatisation operating and financial performance of firms privatised through direct/asset sale is missing in the existing literature.

In the review it was noted that operating and financial performance of newly privatised SOEs improve after privatisation, which may be considered as validation of agency and property rights theories which argue that the introduction of new external and internal mechanisms can be expected to reduce agency problems and improve the performance of privatised firms. The empirical studies discussed in the review also show that privatisation lead to improved operating and financial performance of SOEs both in developed and developing countries but no studies were

found that investigated this phenomenon in the context of Pakistan. Therefore, this study will investigate post privatisation operating and financial performance of SOEs in the context of Pakistan. The study asks the following research questions. Has the operating performance of SOEs improved in the three years following privatisation in Pakistan? How do the stocks of newly privatised firms (both SIP and asset sale privatisation) perform in the long-run? In the following section choice of appropriate methods to answer these questions is discussed.

3 Methods of Data collection

3.1 Introduction

The two main philosophical traditions in business and management research are positivism and social constructionism. One of the key differences between the two traditions is that, how they view the social world. Positivism assumes that the social world exists externally and its properties should be measured through objective methods, while the key idea of social constructionism is that social world is not external and 'reality' is socially constructed and given meaning by people (Easterby-Smith et al,2002).

These two different philosophical traditions lead to different research questions and research methodologies, as (Crotty, 1998) states that, epistemologies, theoretical perspectives, research questions, methods of data collection and research designs are all interrelated and inform one another. It is clear from Crotty's (1998) argument that the type of research questions influences a certain type of methodology being adopted for answering the research questions. This suggests that some methodologies for answering certain type of research questions would be considered more appropriate than the other available methodologies.

As stated in the earlier sections the research questions of this study are as follows, has the operating performance of SOEs improved in the three years following privatisation in Pakistan? Is there any difference in the post privatisation operating performance of newly privatised firms that were privatised through direct sale and share issue privatisation (SIP)? What are the stock returns to investors of newly privatised firms over the long-run (3-years) after privatisation, for firms that were

privatised through direct sale and SIP? And is there any difference in the stock return of firms privatised through direct sale and SIP?

One property which is common in all of the research questions stated above is that, all these questions require measurement of economic performance of firms. Such economic performance at firm level is reflected in operating and financial indicators which are the accounting and finance based parameters such as accounting ratios and share price changes. The nature of these observable data makes the positivist approach and quantitative methods more appropriate to answer these research questions, rather than adopting a social constructionist approach and qualitative methods, such as interviews and focus groups (managers or shareholders), observations (participants or nonparticipant) etc. This study therefore, taking a conventional economic analysis framework to analyse corporate performance, relies on historical financial and accounting data, and applies positivist methodologies.

In this chapter data used in the research, data collection methods and research design adopted for this research will be discussed in detail. In the following sections each of these topics will be discussed in the context of this study.

3.2 Data

As Crotty (1998) states that positivist researches mainly rely on statistical analysis, sampling, measurement and scaling to answer research questions. Also the aims of the research discussed earlier are to investigate post privatisation operating and financial performance of newly privatised SOEs in Pakistan. So it is clear that we need numeric data to answer the research questions stated earlier. In the case of this research the numeric data used is accounting data and stock prices data of newly privatised companies.

As published by the Privatisation commission of Pakistan a total of 167 privatisation transactions were completed until February, 2009, since the privatisation programme started in 1991. Out of the total of 167 privatisation transactions that were carried out in Pakistan, 67 (40%) transactions took place after the year 1999, but due to the unavailability of financial data for transactions carried out before 1999, only those transactions that took place in the period 1999 to 2009 will be analysed. Total of 15 newly privatised companies are included in the sample which includes 9 IPO privatisation transactions and 6 direct sale privatisation transactions. Non-probability sampling (Blaxter et al, 2006) is used and only those companies were included in the sample which have their accounting and financial data available in the public domain. This unavailability of data for the whole privatisation transactions that took place after 1999 has affected the sample size and undermined generalisability of the research to the whole population, which can be considered as a weakness of the study.

3.3 Data collection methods

Data for this research was mainly collected through the use of internet. There are three main reasons behind using this method of data collection, (1) required data was available in public domain through internet (2) easy access and cost effectiveness (3) time saving. Data for the research was collected from the following sources. Data about the number of privatisation transactions, the date of privatisation of each company, the percentage of share holdings sold by the government and the method (asset sale or SIP) through which privatisation took place was collected from the website of privatisation commission of Pakistan.

Accounting data was collected from the annual reports of privatised companies. These annual reports were either downloaded from companies' websites or from www.paksearch.com (a data base which contains annual reports for companies in

Pakistan) depending on their availability in either of these sources. Stock prices data and market index return data was collected from the Karachi Stock Exchange (KSE) website which is also available in public domain.

3.4 Research Methodology

The main research questions this study is trying to answer are (1) did the operating performance of newly privatised companies improve over the long-run (3-years) after privatisation? (2) What are the stock returns to investors of newly privatised companies over the long-run (3-years) after privatisation? The methodologies adopted to answer both these questions are discussed in the following sections.

3.4.1 Operating performance measures

To answer the first question the post privatisation operating performance of firms will be measured over the three years after privatisation. Megginson et al (1994) used profitability, operating efficiency, leverage and payout to measure the operating performance of privatised firms. The three years period is used instead of 5-years or more, because some of the transaction took place more recently and data for more than three years could not be collected for these transactions. To measure the operating performance of privatised firms in this research the methodology used by Megginson et al (1994) will be adopted. However the methodology adopted in this research differs slightly from that used by Megginson et al (1994). The first difference is in the use of profitability ratios. Return on capital employed (ROCE) will be used instead of returns on assets used by Megginson et al (1994) in addition to net profit margins and return on equity to measure profitability. The reasons for using ROCE instead of return on assets are that ROCE is more widely used and is considered to be more comprehensive and accurate measure of a firm's profitability as compared to

return on assets (Britton and Waterston, 2003). This will add to the credibility of the results.

The second difference is that the ratios used to measure operating efficiency are different from those used by Megginson et al (1994). Sale efficiency (real sale/employees) and net income efficiency (net income/employees) are used by Megginson et al (1994) to measure operating efficiency, but due to the unavailability of data on the number of employees it was not possible to use these ratios as measures of operating efficiency. Instead total asset turn over (sale/total assets) is used to measure operating efficiency. Leverage and payout are measured in the same way as measured by Megginson et al (1994).

Following is the list of ratios used to measure operating performance of privatised firms.

Ratios used to measure Profitability:

- Net profit margin = $\text{profit after tax} / \text{sales}$
- Return on capital employed = $\text{profit before interest and tax} / \text{capital employed}$
- Return on equity = $\text{profit after tax} / \text{equity}$

Ratios used to measure operating efficiency

- Total assets turnover = $\text{sales} / \text{total assets}$

Ratio used to measure leverage

- Debt to equity = $\text{long term debt} / \text{equity}$

Ratio used to measure pay out

- Dividend pay out = $\text{dividend} / \text{profit after tax}$

3.4.2 Stock returns measures

The second question this research is trying to answer is that, what are the stock returns to investors of newly privatised companies over the long-run (3-years) after privatisation? To answer this question the most common model used in the existing literature is the buy-and- hold abnormal returns (BHAR). BHAR model used by Choi and Nam (2006) is adopted in this research. Buy-and- hold abnormal returns (BHAR) are calculated as follows:

$$BHAR_{it} = \prod_{t=0}^{\tau} (1+R_{it}) - \prod_{t=0}^{\tau} (1 + R_{MCT}) \quad (1)$$

Where, t is the number of months from the first trading day after issue; τ is the period of investment in months ($\tau = 12, 24, 36$); R_{it} is the return on security i in month t , and R_{MCT} is the market return in month t .

Monthly buy-and-hold returns (BHR) will be calculated first for the calculation of BHAR. Monthly BHR is calculated by compounding daily returns, and then annual BHR is calculated by compounding monthly BHR over 12 months.

3.5 Conclusion

This chapter outlined epistemological background of the research, data used in the research, sources of data and methodology of the research. It was mentioned that in line with the existing literature positivist epistemology is adopted to answer the research questions. This positivist epistemology has influenced the choice of data, methods of data collection and methodology of the research. Numerical data and statistical methods are used to answer the research questions. Specifically methodologies adopted by Megginson et al (1994) and Choi and Nam (2006) are used in the research. Using the methods discussed here, in the next chapter data analysis will be discussed in detail.

4 Collecting and analysing the data

In the previous chapter a brief discussion of data used for the research was given. As a continuation to the last chapter this chapter will provide a detailed description of how data for the study was collected and then how this data was analysed to study the post privatisation operating and financial performance of newly privatised SOEs.

4.1 Data collection

This section describes how the newly privatised companies in Pakistan were chosen to be included in the sample and how the data was collected to measure the operating performance as well as the financial performance of newly privatised companies.

4.1.1 How the sample was chosen

The sample consists of fifteen newly privatised companies privatised in the period 2000- 2009. The companies were chosen irrespective of the industry they were operating and the method of privatisation used for their privatisation. The major factor for a company to be included in the sample was the availability of accounting and financial data after privatisation. This factor has affected, size of the sample used, the type of analysis carried out and hence generalisability of the results. The final sample includes four companies from banking sector, five companies from oil and gas exploration sector, four companies from utilities sector and one each from cement and airline sectors.

4.1.2 Collecting data to measure operating performance

Accounting ratios were used to measure operating performance of each newly privatised company. Four accounting measures were used to measure post

privatisation operating performance. These measures are profitability, operating efficiency, leverage and dividend pay out (Megginson et al, 1994).

To measure profitability after privatisation for each company data was collected about the net profits (profit after tax), sales, capital employed and equity. These figures were used to calculate three accounting ratios to measure profitability. Data for each of these measures was collected over a four year period i.e. the year in which privatisation was carried out and three years after privatisation. All these accounting figures were extracted electronically from the financial reports of each company.

4.1.3 Collecting data to measure financial performance

As stated earlier financial performance after privatisation was measured using the methodology adopted by (Choi and Nam, 2006). Existing literature shows that investors in newly privatised firms earn positive buy and hold abnormal returns (BHAR) over the long-run after privatisation. In this study BHAR to investors of newly privatised firms was studied over a three year period after privatisation. Daily stock returns were calculated for each company based on closing price of the first day of trading after privatisation. These daily returns were used to calculate monthly returns, and then these monthly returns were compared with the market return to calculate abnormal returns. Data for these daily returns was extracted electronically from the Karachi Stock Exchange (KSE) website.

4.2 Analysing data

This section will describe methods used for analysing the post privatisation operating and financial performance of newly privatised firms.

4.2.1 Analysing operating performance

Vertical analysis is used to analyse the post privatisation operating performance of newly privatised firms. The operating performance of newly privatised firms is measured over a four year period starting from the year in which privatisation was carried out for each company. And then the trend of operating performance is analysed for the next three years to see whether or not privatisation has affected post privatisation operating performance of newly privatised firms.

As mentioned earlier four proxies are used to measure operating performance of newly privatised firms included in the sample, these proxies are, profitability, operating efficiency, leverage and dividend pay out. The results for each of these ratios will be analysed in the next section.

4.2.1.1 Net profit Margin

Net profit margin is the first measure used to measure profitability. It is one of the most important and commonly used proxies to measure profitability. For the purpose of this analysis net profit margin is calculated by dividing profit after tax by total sales (Megginson et al, 1994). Net profit margin is calculated for each newly privatised company included in the sample for four years including the year of privatisation. The year of privatisation is considered as the first year and as a benchmark. The net profit margin for each of the next three years after privatisation is compared to the ratio of the first year's net profit margin. The trend in the net profit margin is analysed to see whether it has changed after privatisation or not. Table 4.1 describes the four year trend in the net profit margin for each of the newly privatised firms included in the sample.

Table 4.1 Net Profit Margin Ratios

Company name	NPM1 (%)	NPM2 (%)	NPM3 (%)	NPM4 (%)
UBL	-4.23	21.25	56.10	46.22
BANK ALFALAH	8.50	28.62	15.22	8.89
HABIB BANK	26.43	16.43	24.28	19.17
NBP	3.21	21.38	29.53	30.59
POF	32.83	36.78	37.10	41.54
ATTOCK REFINERY	1.21	1.50	2.67	2.13
DG Khan Cement	10.12	15.85	31.86	30.40
OGDCL	44.71	43.45	49.45	53.04
SSGC	2.22	1.92	1.34	0.42
PIA	3.99	-6.89	-16.26	-19.01
PPL	37.46	37.02	42.20	43.69
KAPCO	29.20	16.19	13.46	14.24
NRL	4.94	3.49	4.60	4.64
KESC	1.73	-17.08	-27.14	-32.27
PTCL	32.46	27.11	23.96	-4.62

In table 4.1 company name indicates names of the companies included in the sample.

NPM1 shows the percentage of net profit margin in year 1, which is the year of privatisation, while NPM2, NPM3 and NPM4 show the net profit margin percentages for the following three years after the year of privatisation.

Table 4.1 shows that net profit margin ratio for eight newly privatised companies (53% of the sample) improved when compared to the net profit margin in the year of privatisation. Seven firms (47% of the sample) show a decrease in their net profit margin when compared to the net profit margin in the year of privatisation. These results will be discussed in detail in the interpretation and findings section.

4.2.1.2 Return on Capital Employed

Return on capital employed is another proxy used to measure profitability of newly privatised companies included in the sample. For the purpose of this analysis return on capital employed (ROCE) is measured as the ratio of earnings before interest and tax to the sum of book value of debt and book value of equity (Damodaran, 2002).

ROCE is one of the most widely used measures of profitability, as it is a good indicator of operating profitability of a firm. Because it takes in to account only the operating profits i.e. profits before interest and tax expenses.

Book value of debt and equity are measured at the beginning of each accounting period (Damodaran, 2002). Table 4.2 describes the four year trend in ROCE for each privatised company included in the sample.

Table 4.2 shows the return on capital employed (ROCE) for all fifteen companies included in the sample over a four year period including the year of privatisation. ROCE1 shows the percentage of return on capital employed in the year of privatisation, while ROCE2, ROCE3 and ROCE4 are the percentages of return on capital employed in the following three years after privatisation.

Table 4.2 shows that ROCE for seven firms (47% of the sample) increased over the following three years after privatisation. Four companies (27 % of the sample) show a decrease in their ROCE, while the rest of the sample firms give mixed results over the four year period. The implication of these results will be discussed in the findings and interpretation section.

Table 4.2 Return on Capital Employed Ratios (ROCE)

Company Name	ROCE1 (%)	ROCE2 (%)	ROCE3 (%)	ROCE4 (%)
UBL	24.67	31.16	53.66	43.76
BANK ALFALAH	55.57	109.75	39.68	43.70
HABIB BANK	55.50	3.15	41.94	43.76
NBP	75.03	47.46	52.70	49.57
POF	37.41	40.39	45.63	43.91
ATTOCK REFINERY	18.49	22.94	47.20	23.05
DG Khan Cement	22.04	14.95	25.74	20.29
OGDCL	37.22	40.06	54.28	64.78
SSGC	24.26	20.82	30.64	31.97
PIA	22.33	-16.52	-40.07	-49.86
PPL	63.15	63.38	66.91	60.74
KAPCO	44.39	49.96	47.66	48.14
NRL	46.42	47.37	47.99	58.34
KESC	-27.98	-48.06	-48.04	-20.44
PTCL	41.54	32.37	21.87	-3.69

4.2.1.3 Return on Equity

Return on equity (ROE) is the third and final proxy used to measure profitability of the sample firms included in this analysis. For the purpose of this analysis ROE is calculated as the ratio of profit after tax to equity. Profit after taxes in the calculation of this ratio are the profits after dividends to preferred share holders being paid, while preferred shares are not included in the calculation of the book value of equity. Preferred shareholders have different type of claims i.e. preferred shares poses qualities of both debt and equity that is why they are excluded from the book value of

common equity (Damodaran, 2002). Table 4.3 shows the results for ROE ratio (in percentage) over the four year period of the fifteen firms included in the sample.

Table 4.3 Return on Equity Ratios (ROE)

Company Name	ROE1 (%)	ROE2 (%)	ROE3 (%)	ROE4 (%)
UBL	-9.01	36.90	100.00	179.88
BANK ALFALAH	44.57	106.16	43.52	43.08
HABIB BANK	14.67	7.84	65.80	67.38
NBP	6.34	126.78	215.09	243.17
POF	237.14	297.19	189.87	287.30
ATTOCK REFINERY	97.67	134.42	331.41	262.23
DG Khan Cement	18.37	28.85	91.22	131.16
OGDCL	193.90	53.15	76.58	106.50
SSGC	14.85	15.09	13.29	4.33
PIA	13.95	-24.54	-63.81	-64.18
PPL	96.49	125.73	195.40	244.49
KAPCO	91.43	60.41	56.70	90.50
NRL	37.65	318.21	630.66	750.99
KESC	1.45	-15.61	-26.42	-34.87
PTCL	53.51	44.12	30.66	-5.54

Table 4.3 shows that ROE has increased for nine firms (60% of the sample) in the following three years after privatisation when compared to the ROE in the year of privatisation. ROE of six firms (40 % of the sample) has decreased in the following three years after privatisation. These results are very important to answer the research questions regarding the impact of privatisation on firm's operating performance and will be discussed in the findings section.

4.2.1.4 Operating Efficiency

Operating efficiency for the sample firms is measured using the accounting ratio of total assets turnover (ATO). The ratio is calculated by dividing total sales by total assets. This ratio is different from the one used by Megginson et al (1994) to measure post privatisation operating efficiency of newly privatised firms. Megginson et al (1994) used the ratio of sale efficiency (real sales/employees), but due to the unavailability of data on the number of employees for the sample firms this ratio could not be used to measure operating efficiency of the sample firms. Instead total assets turnover ratio is used to measure operating efficiency. Bodie et al (2004) states that total asset turnover could also be used as an indicator of operating efficiency of a company, as it measures the efficiency of a company's use of its assets in generating sales.

Table 4.4 shows asset turnover ratio results for sample firms over a four year period starting from the year of privatisation.

Table 4.4 Asset Turnover Ration (ATO)

Company Name	ATO1	ATO2	ATO3	ATO4
UBL	6.02	4.15	3.39	5.81
BANK ALFALAH	8.05	7.50	4.62	5.85
HABIB BANK	0.99	0.68	1.12	15.66
NBP	8.27	6.23	7.83	9.76
POF	66.71	60.00	62.64	57.38
ATTOCK REFINERY	11.88	14.29	25.85	38.24
DG Khan Cement	31.72	31.58	45.07	44.16
OGDCL	54.91	54.84	54.02	66.84
SSGC	20.71	21.17	30.54	11.15
PIA	73.45	87.90	66.03	59.34
PPL	74.31	73.27	77.33	76.20
KAPCO	75.04	95.79	95.26	98.21
NRL	22.17	32.95	27.97	27.76
KESC	63.09	64.20	58.02	53.51
PTCL	18.09	15.38	42.71	43.60

Table 4.4 shows that how well the sample firms have used their assets in generating sales revenues. Asset turnover ratio (ATO) of nine firms (60% of the sample) improved after privatisation, while the ratio has decreased for six firms (40% of the sample). For example for UBL Table 4.4 (row 1) show that, ATO ratio decreased from (6.02 times) in the year of privatisation to (4.15 times) in the first year after privatisation and so on. The implication of this will be discussed in detail later.

4.2.1.5 Leverage measure

For the purpose of this analysis leverage of sample firms is measured by debt to equity ratio (Megginson et al, 1994). This ratio is calculated by dividing the long term debt of a company by the book value of its equity, and it shows the percentage of debt as a proportion of shareholders equity (Damodaran, 2002). Table 4.5 shows the percentages of debt to equity (DTE) ratio for all of the fifteen newly privatised firms included in the study.

Table 4.5 Debt to Equity Ratios (DTE)

Company Name	DTE1 (%)	DTE2 (%)	DTE3 %)	DTE4 (%)
UBL	18.22	30.41	110.14	119.78
BANK ALFALAH	238.28	150.49	120.05	190.12
HABIB BANK	205.25	210.00	692.81	592.48
NBP	131.39	483.94	388.11	415.39
POF	143.30	291.60	188.90	223.95
ATTOCK REFINERY	813.18	806.83	707.88	646.95
DG Khan Cement	238.01	181.85	156.33	276.89
OGDCL	120.96	36.22	45.63	38.72
SSGC	0.17	216.40	255.81	339.71
PIA	279.77	229.21	337.52	371.95
PPL	50.00	48.54	37.11	37.27
KAPCO	129.11	127.97	119.71	31.01
NRL	3.72	37.06	35.56	39.05
KESC	29.03	35.38	44.62	71.49
PTCL	47.77	59.66	34.24	34.60

Table 4.5 shows that debt to equity ratios (DTE) of seven firms (47% of the sample) decreased over the four year period when compared to the year of privatisation, while debt to equity ratio of eight firms (53% of the sample) increased over the four years in comparison to the first year (the year of privatisation).

4.2.1.6 Pay out measure

Dividend pay out ratio (DPO) is used to measure the pay out to shareholders of newly privatised firms included in the sample. For the purpose of this analysis dividend pay out is calculated by dividing total dividends by profit after tax (net profits). Megginson et al (1994) amongst others argue that pay out ratio increases after privatisation for newly privatised firms, Table 4.6 below show results of pay out ratios for all of the fifteen firms included in the sample.

DPO1 is the dividend pay out in the year of privatisation DPO2, DPO3 and DPO4 are the dividend pay out ratios for year 1, year 2 and year 3 respectively after privatisation. Table 4.6 shows that dividend pay out ratio (DPO) for seven companies (47% of the sample) increased over the four year period after privatisation, while seven firms (47 % of the sample) show a decrease in their DPO over the four year period after privatisation. Similarly Table 4.6 also shows that dividend pay out for one firm is unchanged after privatisation. These results will be discussed in detail in the interpretation and findings section.

Table 4.6 Dividend Pay out Ratios (DPO)

Company Name	DPO1 (%)	DPO2 (%)	DPO3 (%)	DPO4 (%)
UBL	0	60.97	22.50	8.34
BANK ALFALAH	56.09	23.55	45.96	27.86
HABIB BANK	0	0	27.13	39.02
NBP	40.56	11.85	11.62	8.57
POF	68.00	25.24	65.84	43.51
ATTOCK REFINERY	0	0	53.05	0
DG Khan Cement	0	0	14.95	11.44
OGDCL	47.96	62.93	78.35	75.12
SSGC	101.01	99.43	112.90	298.48
PIA	17.33	0.12	0	0
PPL	46.64	39.77	33.27	0
KAPCO	100	140.71	124.58	68.85
NRL	35.72	46.92	19.76	22.09
KESC	0	0	0	0
PTCL	130.13	43.03	102.07	0

4.2.2 Analysing Financial Performance

This section of the chapter will describe how financial performance of newly privatised firms included in the sample was analysed. Event study methodology, buy and hold abnormal returns (BHAR) adopted from (Choi and Nam, 2006) is used in this study to measure the financial performance of newly privatised firms.

To calculate BHAR returns for this analysis, first monthly buy-and-hold returns (BHR) were calculated by compounding daily returns. Daily returns were calculated based on the closing price of the first trading date after privatisation. Annual buy-and-hold returns (BHR) were calculated by compounding the monthly buy-and-hold

returns (BHR). Using this methodology, buy-and-hold returns (BHR) for one, two and three year horizon were calculated for shares of each of the fifteen newly privatised firms included in the study.

After calculating annual buy-and-hold returns (BHR) for sample firms and market index (in this case Karachi Stock Exchange index), one, two and three years buy-and-hold abnormal returns (BHAR) were calculated by subtracting the corresponding buy-and-hold returns (BHR) of market from the relevant buy-and-hold returns (BHR) of our sample firms.

Table 4.7 shows the results for one, two and three year's buy-and-hold abnormal returns (BHAR) for our sample firms.

Table 4.7 Buy-and-hold abnormal returns (BHAR)

Company Name	One Year BHAR	Two Years BHAR	Three Years BHAR
UBL	1.30	-1.37	-0.85
BANK ALFALAH	-1.55	0.07	-0.29
HABIB BANK	-0.05	-0.07	-0.02
NBP	-1.52	-0.21	0.88
POF	-1.34	0.28	0.09
ATTOCK REFINERY	-1.26	-0.08	0.65
DG Khan Cement	-1.40	-0.08	0.22
OGDCL	-1.15	-0.03	-0.10
SSGC	-1.46	-0.51	-0.29
PIA	-1.22	0.32	-0.79
PPL	-1.42	0.05	-0.50
KAPCO	-1.50	-0.11	-0.39
NRL	-1.24	-0.05	0.06
KESC	-1.36	-0.41	-0.09
PTCL	-1.21	-0.18	-0.22

Table 4.7 column 2 shows that one year BHAR of fourteen companies (93% of the sample firms) is negative i.e. they have underperformed the market. The two years BHAR of 73% sample firms is negative, while the three years BHAR is negative for 67% firms in the sample. These results are very important to answer the research questions regarding the post privatisation financial performance of newly privatised firms and will be discussed in detail in the next section.

4.3 Conclusion

In this chapter methods used for collecting and analysing data were discussed in detail. The chapter started with how the sample was chosen, and then the different sources from which data was extracted were also described. Secondary data sources, such as companies' annual reports and stock exchange data were the main sources of data. The analysis part of the chapter was divided in to two sections, in section one analysis carried out to measure operating performance of the sample firms were presented, while section two described the analysis carried out for financial performance measurement. In the final two sections of the chapter results of the analysis carried out were also presented in the form of tables.

5 Interpreting the data

In the last chapter results of different ratios used to measure operating and financial performance were presented. In this chapter these results will be interpreted in light of the existing literature and research questions. The chapter is divided in to two sections; in section one results of operating performance measures while in section two results of financial performance measures will be discussed.

5.1 Operating performance results interpretation

Operating performance of the sample firms was measured using the methodology adopted by Megginson et al (1994). Four measures were used to measure the operating performance. These measures are, profitability, operating efficiency, leverage and payout. Each of these measures was calculated using accounting ratios. These are the most common measures used to measure post privatisation operating performance in the existing literature. Most of the existing literature on privatisation shows that operating performance improves after privatisation (see for example, Martin and Parker (1995), Megginson et al (1994), D'souza and Megginson (1999), Boubakri and Cosset (1998) etc).

To measure post privatisation operating performance most of the studies used the methodology adopted by Megginson et al (1994), which has been used in this study as well. Most studies mentioned above document a significant increase in profitability, operating efficiency and dividend pay out after privatisation, while a significant decline in post privatisation leverage ratios.

Based on the results of the existing literature this research asked two questions regarding the post privatisation operating performance of newly privatised firms.

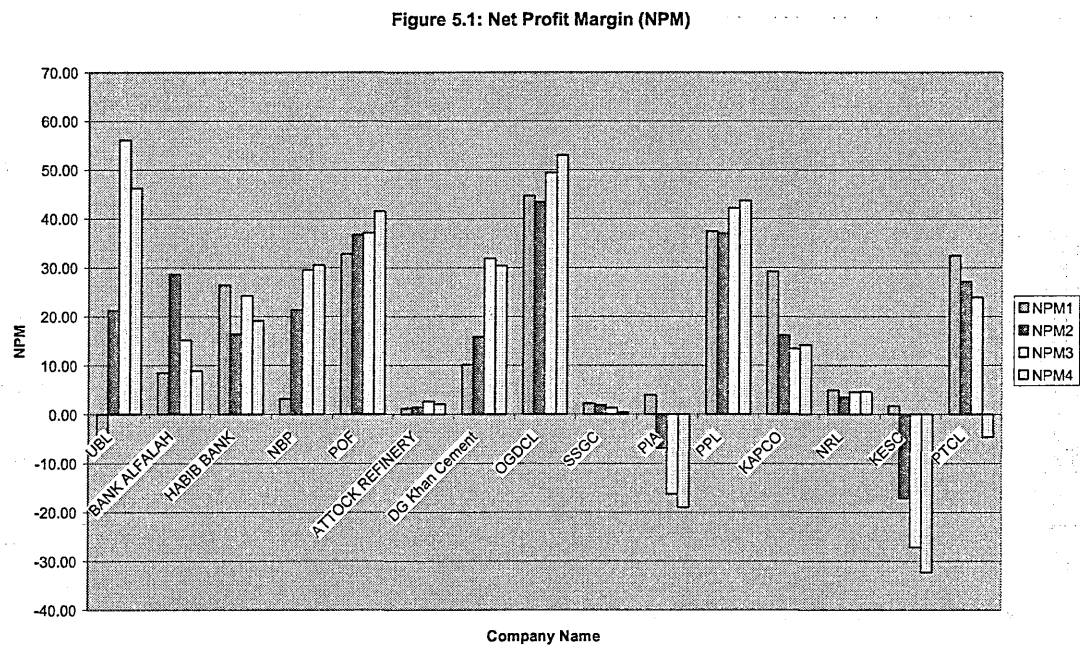
- Has the operating performance of SOEs improved in the three years following privatisation in Pakistan?
- Is there any difference in the post privatisation operating performance of newly privatised firms that were privatised through direct sale and share issue privatisation (SIP)?

The following accounting ratios were used to measure the post privatisation operating performance, net profit margin (NPM), return on capital employed (ROCE), return on equity (ROCE), total assets turnover (ATO), debt to equity (DTE) and dividend pay out (DPO). The results for each of these ratios will be interpreted in the next section to see how it answers the research questions.

5.1.1 Net profit Margin

Results of the net profit margin ratio (NPM) for the sample firms are presented in the figure 5.1 below. In figure 5.1 the X-axis shows names of the companies included in the sample, Y-axis shows the percentage value of net profit margin for each firm in the four years period starting with the year of privatisation. NPM1 represents the net profit margins in the year of privatisation, while NPM2, NPM3 and NPM4 are the net profit margins for the following three years after privatisation. Figure 5.1 shows that NPM of eight firms in the sample improved when compared to the year of privatisation, while NPM for seven firms declined after privatisation.

Figure:5.1



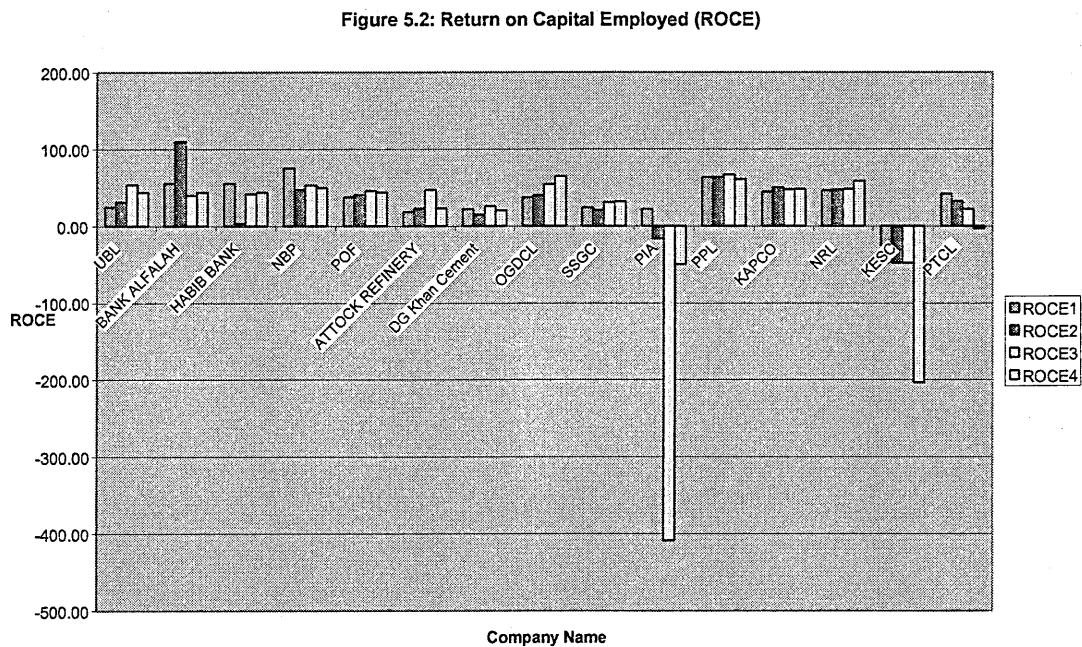
Based on the results of the existing studied (Such as, Megginson et al (1994), Sun and Tong (2002), Gupta (2005) etc) one would expect the NPM for all of the fifteen firms to increase after privatisation. But seven firms have shown a decline in the NPM after the year of privatisation. One thing which is common between these seven firms for which the NPM has declined after privatisation is that, six of them were privatised after the year 2004 (See Appendix 1). On the other hand the sample firms for which the NPM has increased after privatisation were all privatised before the year 2004. So it can be argued that the period of privatisation has affected post privatisation performance of newly privatised firms included in the sample.

Similarly NPM for 67% of the firms privatised through IPO has increased after privatisation, while NPM for 67% of the firms privatised through asset sale has decreased after privatisation (See Appendix 1). This is a very important indicator to answer the research question regarding the affects of the method of privatisation on post privatisation operating performance of firms.

5.1.2 Return on Capital Employed (ROCE)

Results for ROCE are mixed for the sample firms as shown in figure 5.2. ROCE for 47% of the sample firms improved in the three year period after privatisation in comparison to ROCE in the year of privatisation. ROCE for 27% of the sample firms decreased in the following three years after privatisation; while ROCE for 26% firms has shown a mixed trend in the following three years after privatisation (i.e. increased in some years after privatisation while decreased in others).

Figure: 5.2



Again from Appendix 1 it seems that the period of privatisation has played some part in the post privatisation value of ROCE for sample firms, because ROCE results of only those sample firms that were privatised prior to the year 2004 are consistent with findings of the existing studies.

As far as affects of the method of privatisation on ROCE are concerned results are mixed, because ROCE for 55% of the firms privatised through IPO has increased in the following years after privatisation. ROCE for only 22% of the firms privatised through IPO has decreased and for 23% firms it is mixed. On the other hand ROCE

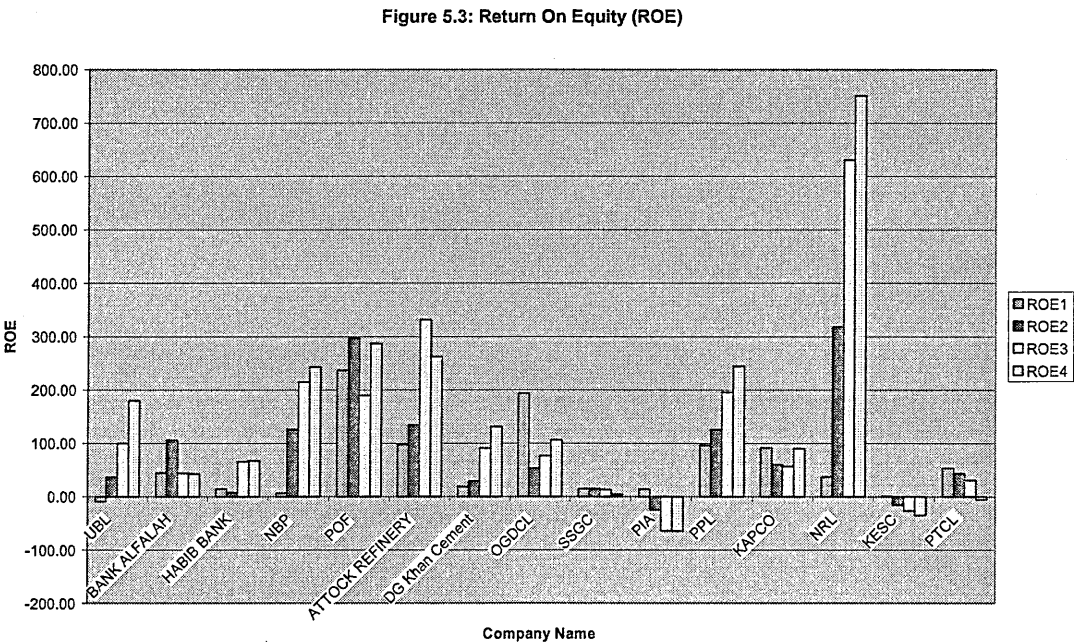
for 67% of the firms privatised through asset sale has either decreased or is mixed and for the rest of 33% it has decreased in the following years after privatisation.

5.1.3 Return on Equity (ROE)

Figure 5.3 shows that ROE for 60% of the sample firms increased in the following three years after privatisation, while ROE for the rest of 40% sample firms decreased after privatisation. The decrease in ROE of 40% firms in the sample contradict results of most of the existing studies on privatisation, but again the noticeable fact is that the sample firms for which ROE has decreased in the following three years after privatisation were privatised after 2004 (See Appendix 1).

Appendix 1 also shows that 56% of the firms privatised through IPO are amongst those firms for which ROE has increased, while 67% of the firms privatised through asset sale have shown an increase in their ROE in the following three years after privatisation. This shows that the affects of the method of privatisation on post privatisation values of firms' ROE are not very clear.

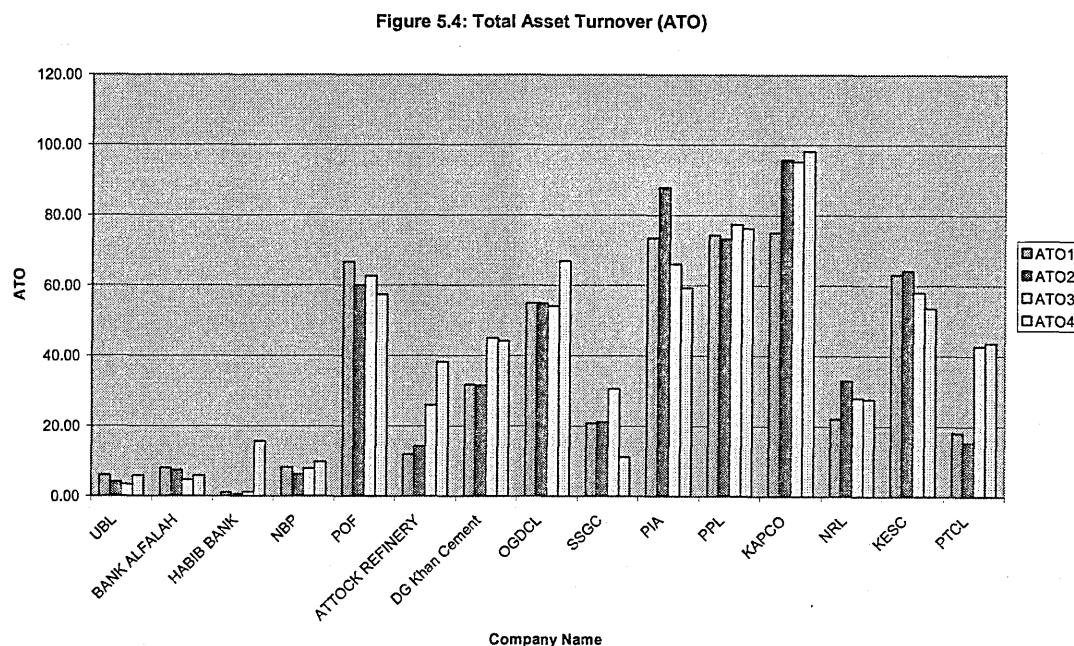
Figure: 5.3



5.1.4 Total Asset Turnover (ATO)

Figure 5.4 shows the asset turnover ratio (ATO) results for the sample firms. This ratio is used as a measure of the operating efficiency of newly privatised firms included in the sample. Again results of the ATO ratio in figure 5.4 partially support findings of the previous studies i.e. ATO ratio for 60% of the sample firms increased in the following years after privatisation, while ATO ratio for 40% firms decreased in the following years after privatisation. Amongst the 40% firms ATO ratio for half of the firms has increased immediately after privatisation (e.g. SSGC, POF and PIA, figure 5.4) but decreased afterwards.

Figure: 5.4



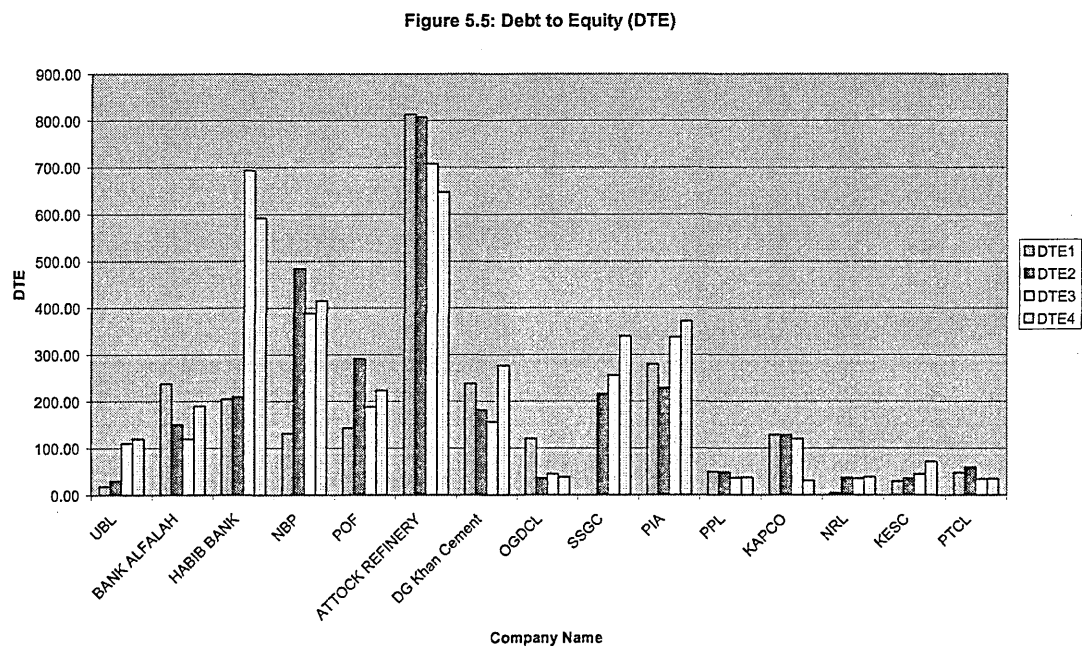
Also Appendix 1 shows that most (67%) of the firms in figure 5.4 showing an increase in post privatisation ATO ratio were privatised through IPO, while the rest 33% of firms were privatised through asset sale. Based on these results it can be argued that the method of privatisation does have an impact on the post privatisation performance of the sample firms.

5.1.5 Leverage ratio

Leverage of the sample firms was measured by debt to equity ratio (DTE). Figure 5.5 shows results of the debt to equity ratio. Previous studies on privatisation shows that leverage of newly privatised firms decline significantly after privatisation (see for example, Megginson and Netter (2001)). But figure 5.5 shows that DTE of only 47% of the sample firms decreased after privatisation which is consistent with the findings of previous studies, while DTE of 53% firms increased after privatisation which contradict most of previous studies’ findings.

As far as the relationship between method of privatisation and post privatisation leverage is concerned, Appendix 1 shows that 56% of the firms privatised through IPO have seen a decrease in their post privatisation DTE ratio. On the other hand DTE ratio of only 33% of the firms privatised through asset sale has decreased in the following three years after privatisation. Again this indicates that firms privatised through different methods some how perform differently after privatisation.

Figure: 5.5

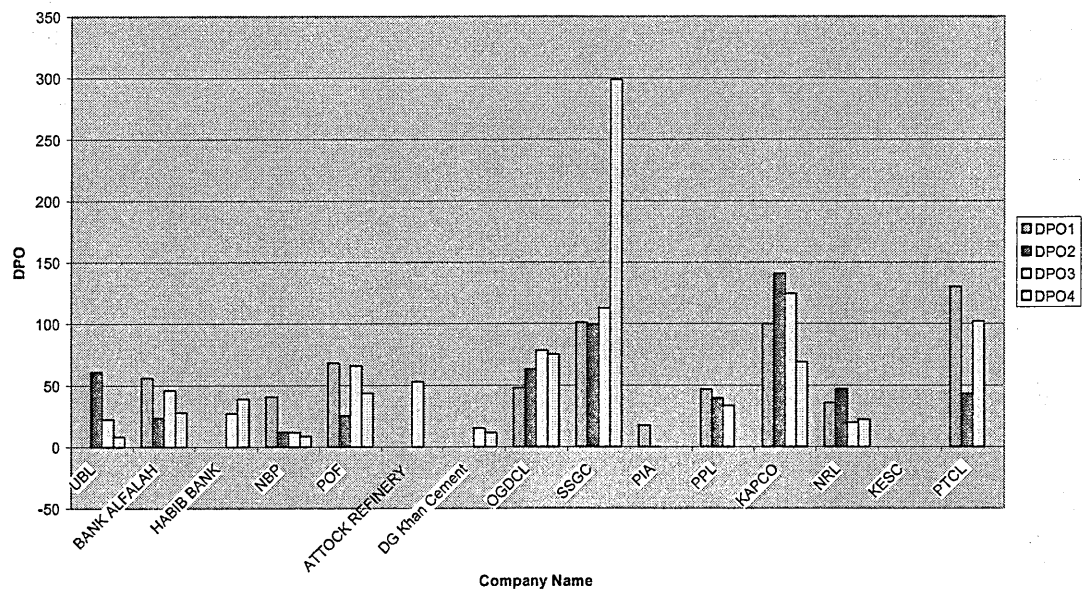


5.1.6 Dividend Pay Out (DPO)

Figure 5.6 show results of dividend pay out ratio (DPO) for sample firms. Again results for the sample firms partially support findings of previous studies i.e. DPO ratio has increased for 53% of the sample firms.

Figure: 5.6

Figure 5.6: Dividend Pay Out (DPO)



Similarly DPO ratio of 56% of firms privatised through IPO has increased in the subsequent years after privatisation, while DPO ratio of only 33% of firms privatised through asset sale has increased in the subsequent years after privatisation. Therefore this indicates a possible relationship between the method of privatisation and post privatisation operating performance.

5.2 Financial Performance results interpretation

Post privatisation financial performance of the sample firms was measured using the methodology adopted by Choi and Nam (2006). Buy-and-hold abnormal returns (BHAR) were used to measure the post privatisation stock performance of newly privatised firms.

Most of the existing literature on post privatisation financial performance of newly privatised firms show that investors in newly privatised firms earn positive long run buy-and-hold abnormal returns (see for example, Levis (1993), Jelic and Briston (1999), Megginson et al (2000) etc). In contrast to the studies mentioned above Omran (2005) shows that investors in newly privatised firms earn positive abnormal returns in the first year, while over a three-year and five-year period these abnormal returns are negative.

In the existing literature the phenomena of long run buy-and-hold returns has only been studied for those firms that were privatised through share issues (SIP), while in this study the buy-and-hold abnormal returns were calculated for both type of privatised firms i.e. firms that were privatised through share issue as well as through asset sale. Therefore the research questions regarding the long run financial performance of newly privatised firms were,

- What are the stock returns to investors of newly privatised firms over the long-run (3-years) after privatisation, for firms that were privatised through direct sale and SIP?
- Is there any difference in the stock returns of firms privatised through direct sale and SIP?

Figure 5.7 show results for BHAR and Figure 5.8 shows buy-and-hold returns (BHR) for the sample firms over the three years horizon. The contrasting trend of the results in the two figures is obvious.

Figure: 5.7

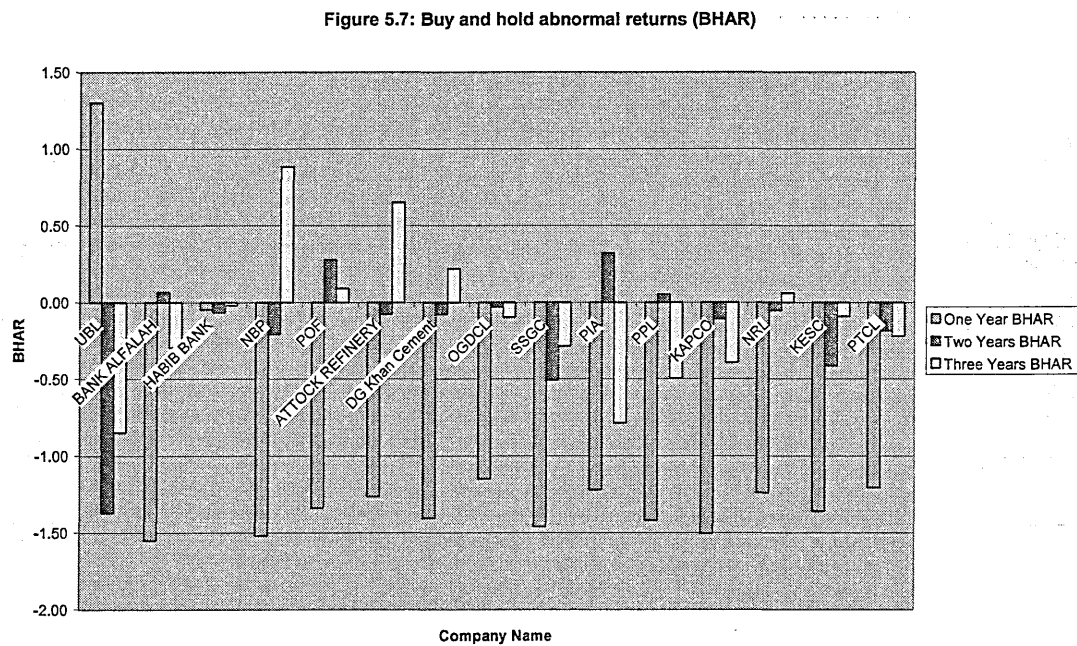


Figure 5.7: One year BHAR are negative for 93% firms, two years BHAR are negative for 73%, while three years BHAR are negative for 67%.

Results for BHR and BHAR in Figure: 5.7 and Figure: 5.8 shows that investors in newly privatised firms earn positive buy-and-hold returns (BHR) over three years, but are underperformed by the domestic market i.e. BHAR are negative for most of the sample firms over the three years horizon.

Figure: 5.8

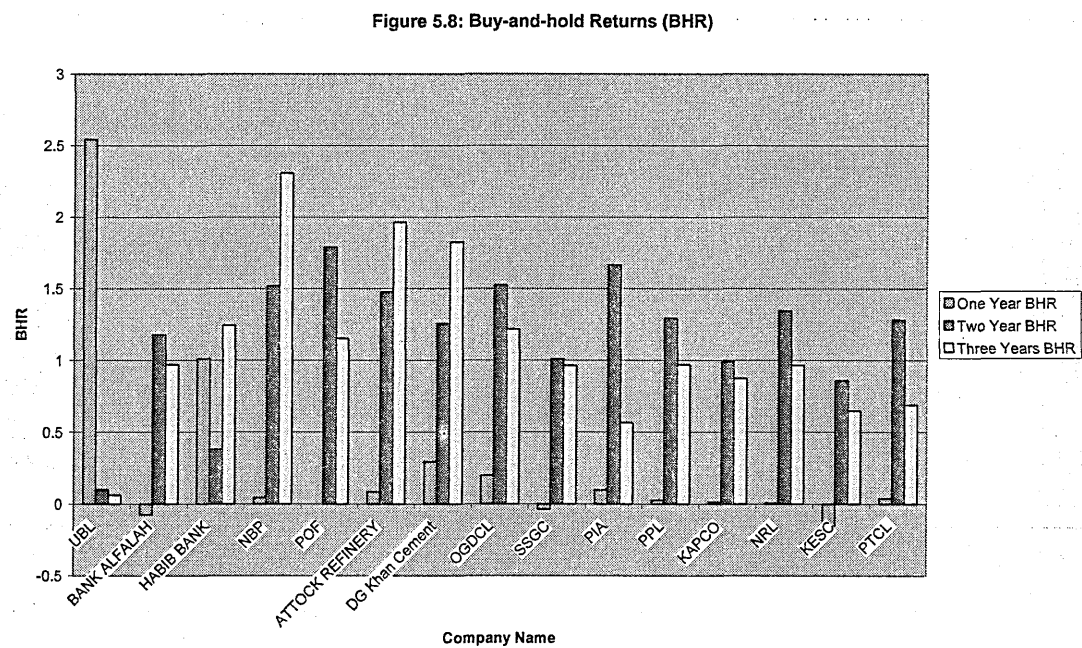


Figure 5.8: One year BHR are negative for only 20% of the sample firms, while two years and three years BHR are positive for all firms in the sample.

These results are partially consistent with the findings of Omran (2005), because Omran (2005) also document negative BHAR for three years horizon after the one year positive returns.

These results partially contradicts findings of Choi and Nam (2006) when compared to the results for the whole sample they used, but support Choi and Nam’s (2006) findings when compared to the subsamples they used. Choi and Nam (2006) divided their sample in to three categories i.e. low income countries, middle income countries and high income countries. After dividing the sample in to three categories based on the national income for each country, Choi and Nam (2006) found that BHAR returns are negative over a three years horizon for low income countries. So considering the economic conditions of Pakistan and treating it as a low income country it can be argued that the negative BHAR for the sample firms supports Choi and Nam’s (2006) findings.

As far as the affects of method of privatisation on post privatisation financial performance is concerned , the results in Figure: 5.7 and Figure: 5.8 shows that the method of privatisation does not affect the post privatisation BHAR or BHR for newly privatised firms as the trend is similar for all companies privatised through different methods.

6 Findings

In the previous chapter results of operating and financial performance were interpreted in light of the existing literature and research questions of the study. This chapter will present main findings of the study. In the first section main findings in relation to operating performance as well as financial performance will be presented and in section two limitations of the research will be discussed.

6.1 Findings related to post privatisation operating performance

Major findings regarding post privatisation operating performance are summarised in the table 6.1 below.

Table 6. 1: The percentage of sample firms showing increase in each of the accounting ratios after privatisation, and the percentage of IPO firms and Asset sale firms showing increase in each ratio.

Ratios	% of the sample firms showing increase in each ratio.	% of IPO Firms showing increase in each ratio.	% of Asset Sale Firms showing increase in each ratio.
NPM	53	67	33
ROCE	53	67	33
ROE	60	56	67
ATO	60	67	50
DE	47	56	33
DPO	53	56	33

Table 6.1 (column 2) shows that post privatisation operating performance in terms of , profitability, efficiency, leverage and dividend pay out improved for more than half of

the sample firms, therefore partially supporting the findings of (Megginson et al (1994), Boubakri and Cosset (1998), D'souza and Megginson (1999), Dewenter and Malatesta (2001)).

Table 6.1 (column 3) shows that post privatisation operating performance improved for more firms privatised through IPO as compared to firms privatised through asset sale. This implies that the method of privatisation does have an affect on post privatisation operating performance, which was one of the research questions for this study.

Sample firms privatised before the year 2004 showed greater increase in operating performance as compared to the sample firms which were privatised after the year 2004. This finding seems to be consistent with the argument put forward by (Boubakri et al (2005) and D'souza et al (2005)). (Boubakri et al (2005) and D'souza et al (2005)) argue that post privatisation operating performance improvement is dependent on many factors such as, economic growth, macro economic reforms and corporate governance structures in a country as well as firms' specific factors. It can be argued that the overall business environment in Pakistan after the year 2004 might have affected the post privatisation operating performance of the sample firms.

Table 6.1 (column1) also shows that post privatisation, Profitability, efficiency and payout decreased for more than 40% of the sample firms, while leverage for more than 40% of the sample firms actually increased after privatisation. These findings are consistent with the findings of previous studies (such as, Boardman and vining (1989), Martin and Parker (1995), Harper (2001), (Zuobao et al (2003)).

Appendix 1 shows the percentage sold by the government in each company. The percentage of control relinquished by government does not have a consistent impact on post privatisation performance of the sample firms, but it does affect the post

privatisation operating performance in some cases i.e. firms in which the government has retained controlling interest performed poorly after privatisation in some cases, while in some cases firms in which government has retained controlling interest performed well. Therefore this finding is partially consistent with Boubakri et al (2005). Boubakri et al (2005) argue that the percentage of control relinquished affects post privatisation operating performance, which is the case for some of the firms in the sample.

6.2 Findings related to post privatisation financial performance

Main findings in relation to post privatisation financial performance are summarised in table 6.2.

Table 6.2 shows that the mean one year BHR for sample firms are 12% while the mean one year BHAR are -109%. This means that sample firms have underperformed the domestic market in year one, and the same trend is persistent for two years and three years BHAR. Although the margin of underperformance is relatively small-15% (year two) and -10% (year three), when compared to -109% BHAR in year one.

Table 6.2: Mean and Median returns (BHR and BHAR) for sample firms over a three years

horizon. All these results are significant at 5%.

BHR	One Year	Two Years	Three Years
Mean	0.12	1.23	1.13
Median	0.04	1.28	0.97
BHAR	One Year	Two Years	Three Years
Mean	-1.09	-0.15	-0.10
Median	-1.33	-0.07	-0.09

These findings are consistent with the findings of Aggarwal et al (1993) who documents one year market-adjusted returns for privatisation initial public offerings averaging -29.9%. But contradicts (Boardman and Laurin (2000), Dewenter and Malatesta (2001)) who documents significantly positive long-term (1-5 years) abnormal returns for privatisation IPOs.

The results in table 6.2 also shows that the method of privatisation does not affect post privatisation BHAR and BHR, as the trend of BHAR and BHR is the same for firms privatised through share issue and asset sale.

6.3 Limitations of the study

One limitation of the study is small sample size. The sample size is small which decreases the external validity and generalisability of the results. Due to the unavailability of data for all of the privatisation transactions carried out in Pakistan, only fifteen companies out of the total of 167 privatised companies were studied in

this research. Due to this limitation results of the study could not be generalised to the whole population of newly privatised firms in Pakistan.

Another limitation of the research is that, pre privatisation accounting and financial data was not available for majority of the sample firms, due to which analysis was restricted to only post privatisation years. The analysis would have been more rigorous, more valid and more credible if post privatisation performance could have been compared with three to five years pre privatisation performance.

Another limitation of the study is that, only those firms were included in the sample which had their accounting and financial data available online. This limitation leads to the sample selection bias due to which the sample could not be considered to represent the whole population of newly privatised firms in Pakistan.

Apart from these limitations mentioned above another limitation of the study arise from the use of accounting data to measure post privatisation performance. The use of accounting measures could be considered as a threat to validity and reliability of the study. One of the inherent limitations of the accounting data is that it can easily be distorted by using creative accounting techniques, so the financial statements could provide a misleading picture of the performance to shareholders. Therefore, using accounting data as measures of performance could decrease validity of the results based on these measures.

Our sample includes companies from different sectors, such as financial, manufacturing and services industries. The same set of accounting measures have been used to measure the post privatisation performance for all companies from different sectors, which could affect the validity and reliability of the results. Because, firms operating in different sectors have different capital structures, which would affect the outlook of its financial statements and the ratios based on those statements.

For example using the same set of performance measures for banks and manufacturing firms could be misleading, as banks would have significantly high leverage and high interest expenses as opposed to a manufacturing firm which would have a large proportion of its equity financed by shareholders. Therefore comparing the operating performance of banks with manufacturing sector using the same set of measures would provide misleading results. All these inherent limitations of the data and sample used may influence validity of the results of the study adversely.

6.4 Conclusion

This study investigated the post privatisation operating and financial performance of newly privatised firms in Pakistan. Two most predominant methodologies used in the existing literature for measuring post privatisation operating and financial performance were adopted in this study to analyse post privatisation operating and financial performance of the sample firms. For measuring post privatisation operating performance accounting ratios adopted from Megginson et al (1994) were used, while financial performance was measured by using BHAR and BHR adopted from Choi and Nam, (2006).

The main findings regarding the post privatisation operating performance are that, post privatisation operating performance for only (50- 60%) of the sample firms improved, while for more than 40% firms post privatisation operating performance decreased. It is argued that the decline in post privatisation operating performance for sample firms may have been caused by the broader economic and political environment of the country. There was also some evidence that the post privatisation operating performance is affected by methods used to privatise a firm (i.e. SIP or asset sale), while there was also some inconsistent evidence indicating a possible association between control relinquished by government and post privatisation operating performance.

Main findings regarding post privatisation financial performance were that the BHAR are negative over a three years horizon and newly privatised sample firms underperformed the domestic market. This underperformance was economically and statistically significant. While there was no evidence to suggest that the post privatisation financial performance is affected by methods used to privatise a state

owned enterprise. These findings regarding post privatisation financial performance seems to contradict most of the existing studies.

In the end limitations of the research were also discussed. There are broadly two types of limitations of the study, one arising from the small sample size and the nature of data used. The second limitation of the study arises from using accounting data as measures of economic performance. Both these limitations have affected the validity and reliability of the results adversely.

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Appendix 1: Appendix shows the year of privatisation, percentage sold and the method of privatisation used to privatise, for each of the sample firms.

Privatisation Transaction	Type of Transaction	Date of Privatisation	Percentage sold (%)
UBL	Asset Sale	October 2002	51
UBL	IPO	August 2005	4.2
BANK ALFALAH	Asset Sale	December 2002	30
HABIB BANK	Asset Sale	December 2003	51
NBP	IPO	February 2002	10
NBP	SPO	November 2002	10
POF	IPO	October 2002	100
ATTOCK REFINERY	IPO	January 2003	100
DG Khan Cement	IPO	December 2002	100
OGDCL	IPO	November 2003	5
OGDCL	SPO	November 2006	9.5
OGDCL	SPO	April 2007	0.5
SSGC	IPO	February 2004	5
PIA	IPO	June 2004	4.01
PIA	SPO	July 2004	5.8
PPL	IPO	July 2004	15
KAPCO	IPO	August 2005	20
NRL	Asset Sale	May 2005	51
KESC	Asset Sale	November 2005	73
PTCL	Asset Sale	August 2005	26

Source: Privatisation Commission of Pakistan.